A Transformation in Progress

Alberta's ECS-12 Education Workforce 2011/2012

Government of Alberta

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Introduction

In the midst of Alberta's strong but ever changing economy, school systems across the province are faced with broad variety of challenges. Some, such as on going operating costs, school building maintenance and local governance issues are easily identified as being front and center as top priorities; but others, such as workforce planning concerns and student population shifts, often sit quietly under the surface and are not immediately apparent until a crisis emerges.

In an effort to support school authorities in strategic, long term conversations around student populations and teacher workforce demand, Education has provided customized, student population and workforce demand demographic portraits and projections to each superintendent across Alberta. These demographics and projections allow education sector planners to engage in strategic, data driven conversations related to changing populations and resultant workforce demands. Ultimately, these planning sessions result in action oriented initiatives and policy that benefit Alberta's K–12 student population.

In addition to the development of population demographic portraits and population projections, Education is committed to supporting the education system through action. The *Education Sector Workforce Planning Framework for Action* is a 5-year strategic plan designed to provide proactive solutions to emerging demands in the education sector workforce. It is intended to serve as a roadmap for change in the endeavour to provide students in Alberta with access to high quality education professionals, now and in the future.

The development of the *Framework for Action* represents the education sector's commitment to attract, develop and retain professional teachers in Alberta's education system. It articulates key challenges facing the education sector workforce and offers strategic recommendations aligned with the vision of having the right people with the right skills in the right places at the right times to meet the needs of learners.

This document showcases Alberta's student and teacher demographic portraits and projections and highlights Education's on going efforts to support a strong education sector workforce.

Forecasting Methodology

Overview of the Model

The *Alberta Education Student and Teacher Forecasting Model* is based on a modified 'Cohort Component' Model (the standard demographic forecasting method used by academics and forecasters around the world). The *Model* forecasts the Alberta student population using fertility and migration rates applied to Alberta Health and Wellness population data, forecasts continuing teachers based on historic attrition in Alberta Education data, and hires the shortfall to maintain a consistent student to staff ratio.

The *Model* relies on historical data patterns and then uses these patterns to determine the input variables used to calculate future population and workforce demand projections.

The *Model*'s primary function is to serve as a springboard for thoughtful, strategic conversations about the future population growth or decline in your school authority based on data and sound forecasting methodology. It provides planners and those most interested in planning with a platform for considering future student populations and the impact that these populations will have on budgets, staffing, programs and facilities.

The *Model* was designed with two key functions:

1. Forecast student population at both the jurisdictional and provincial levels, and
2. Forecast the number of teachers who will be required in the system to address changing student populations and an identified certificated staff to student ratio.

With these two key functions in mind, the *Model* provides related population and workforce data in a visual format which can then be used in conversations about how a jurisdiction might respond to future changes.

While *Model* is proving to be an accurate predictor of student population and workforce demand, the *Model* cannot predict the future; however, the combination of all supply and demand factors results indicate trends and scenarios that can be used effectively to engage planners in strategic conversations.

Data Sources

The data used in the *Model* comes from a variety of sources including:

- School jurisdiction student population and teacher workforce data
- Alberta Health and Wellness population data (population, fertility, and migration)
- Alberta Health and Wellness detailed fertility data (fertility)

- Alberta Education student data (student population data, student participation rates, teacher workforce data)
- Alberta Education school infrastructure capacity data
- Alberta Finance projected fertility and migration inputs

Geo-Mapping

For the purposes of organizational governance, Education is divided into six geographic regions.

- Zone 1 in the North
- Zone 2/3 in Central Alberta
- Zone 4 in South Central Alberta
- Zone 5 in the Calgary/West Region
- Zone 6 in the South/East
- Francophone Regions are distributed across Alberta

The Big Picture: Alberta's Population and Economic Growth

General Population and Economic Growth Rates:

Alberta's economy is strong and economic indicators for the province remain encouraging.

- In 2010, Alberta's real Gross Domestic Product (GDP) by industry advanced 3.8% up from a 4.8% decrease recorded in 2009. Nationally, real GDP expanded 3.3% in 2010, following the 2.6% decline of 2009.
- Employment in Alberta rose by 12,400 in July 2011 and the unemployment rate fell from 5.6% in June to 5.5% in July, due to an increase in the labour force of 11,800 people. Nationally, employment increased by 7,100 while the unemployment fell to 7.2%.
- In May 2011, average weekly earnings in Alberta were the highest in the country at $1,037.40 (seasonally adjusted). This was an increase of 0.5% from April and 4.9% higher than a year earlier. Nationwide, average weekly earnings were $875.64 (seasonally adjusted), up 3.3% from May 2010.
- Alberta's year over year inflation rate was 2.4% in June 2011, down from the 2.8% rate recorded in May 2011. Nationally, the inflation rate stood at 3.1%, down from 3.7% in May.
- As of April 1, 2011, Alberta's population was estimated at 3,758,234 representing growth of 1.5% from a year earlier. Nationally, population grew 1.1% from April 2010.
- In the first quarter of 2011, Alberta had a net interprovincial migration gain of 5,275 people. This was up from the gain of 2,510 in the fourth quarter of 2010.
- Alberta retail sales were up 0.2% (seasonally adjusted) between April and May 2011 and 7.8% above May 2010 levels. Nationally, retail sales edged up 0.1% from April.
- In June 2011, housing starts in Alberta grew by 3.0% in July to a seasonally adjusted annual rate of 24,300 units. Nationally, housing starts advanced 3.1% year over year in July 2011.
- New house prices in Alberta were unchanged in June 2011. Compared to a year ago, new house prices in Alberta were 0.3% higher. Nationally, new house prices were 2.1% higher than a year ago.
- The value of building permits in Alberta fell by 11.0% (seasonally adjusted) in June 2011 to $972.6 million with both the residential sector (-4.1%) and the non residential sector (-8.5%) falling from the May values.
- The average number of rigs drilling in Alberta was 240 in July 2011, up from 150 in June. Drilling activity was 20.8% more than the numbers from July 2010.

All of this activity contributes significantly to a vibrant and growing province. It also has significant implications for the education sector workforce.

Workforce Planning in the Education Sector in Alberta

There are two critical dimensions to consider when engaging in workforce planning in the education sector:

Supply Considerations

The supply of teachers is also driven by four main factors:

- The number of persons interested in careers in education
- Number of graduates from Alberta's teacher preparation programs who enter the education sector workforce
- The number of teachers from out of province who choose to make Alberta their home
- The number of teachers with specific subject or grade level specialization.

Demand Considerations

The demand for teachers in Alberta is driven by four main factors:

- The volume of student population within a given community or region
- Attrition from the workforce (retirements, terminations, early career leavers, leaves of absence, etc.)
- Student to staff ratios
- Programming demands and subject specialization.

These two dimensions, supply and demand, are greatly affected by Alberta's strong economy. Using moderate projections of fertility, migration, staff attrition, student participation and student to staff ratios it is expected that:

- The Alberta student population is expected to increase by over 150,000 students over the next 14 years.
- This expected increase in student population will result in an additional 9,000 Full time Equivalent (FTE) teachers being required in the system.
- Each year, the system needs to hire sufficient teachers to maintain acceptable student to staff ratios. Using the current student to staff ratio of 17:1, 2,000 new hires will be needed in 2011/12. This number is expected to increase to 2,900 new hires in 2024.

- Typically, of the 2,000 graduates that successfully complete a teacher preparation program in Alberta, 1,500 of them will go into teaching. The remaining 500 choose alternative paths including further education, teaching in other provinces or countries or other occupations. This means that Alberta's school jurisdictions will need to be increasingly aggressive in attracting teachers prepared in other provinces and territories if we are to meet the demand.

Profile of the Student Population in Alberta

Overview

By April 1, 2011, Alberta's population grew to 3,758,234. Alberta's general population is expected to continue to grow. This growth consistently exceeds Canada's average growth rate as demonstrated in the chart below.

POPULATION & GROWTH RATES
CANADA & ALBERTA

	Population			Annual Growth Rate	
Apr 1	Canada	Alberta	Apr 1	Canada	Alberta
2006	32,470,572	3,396,821	2006	1.02%	3.03%
2007	32,818,045	3,489,842	2007	1.07%	2.74%
2008	33,187,481	3,563,246	2008	1.13%	2.10%
2009	33,598,878	3,652,096	2009	1.24%	2.49%
2010	33,987,938	3,702,408	2010	1.16%	1.38%
2011	34,349,236	3,758,234	2011	1.06%	1.51%

Source: Statistics Canada

Using medium growth projections, the general population in Alberta is projected to grow from its current 2011 levels of 3.758 million to 4.550 million by 2024.

Using similar methodology, Alberta's student population is to grow from its current level of 587,600 to 738,800 by 2024.

Births in Alberta

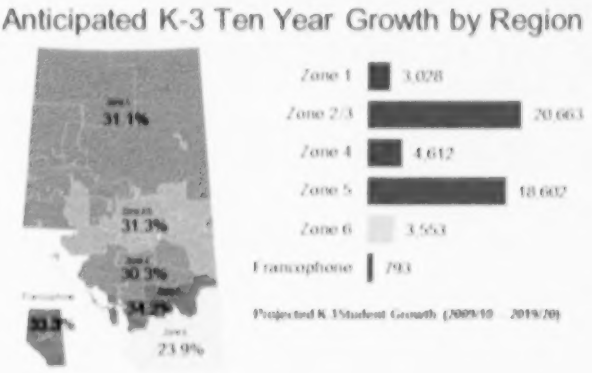
After a 20 year downward trend in the 1980s and 1990s, total number of births in Alberta reached an inflection point in the early 2000s and has been picking up since then. After surpassing the previous peak of 45,470 (1983) in 2007, births in Alberta rose to a record high of 52,937 in 2010.

The increase in the number of births can be partially explained by the expanding population in Alberta. Total births in the province increased more than 80% from 29,384 in 1972 to 52,937 in 2010, yielding an average annual growth rate of 1.6%. Alberta's total population more than doubled during the same period to reach an average annual growth rate of 2.1%. However, population growth does not always translate into more births. For instance, despite the slowdown in the 1980s

and 1990s, Alberta's population continued to grow, whereas the total number of births declined half of the time. Therefore, other factors, such as people's preference on when to have children and how many children to have, will also have a significant impact on the number of births in the province.

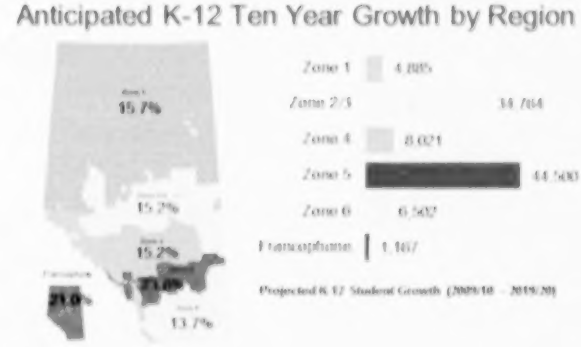
Anticipated K-3 Growth

Over the next 10 years, growth in the K-3 grades is expected to increase by over 30%, thereby increasing demand for K-3 teachers and placing pressure on facilities that meet the needs of students in grades K-6.



Anticipated K-12 Ten-Year Growth

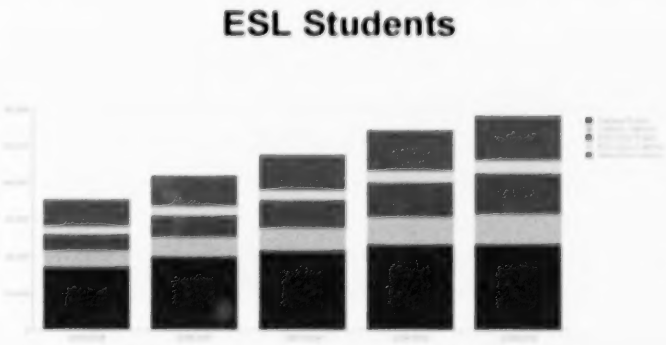
The impact of a strong economy and stable fertility rates will result in significant growth in K-12 student populations over the next 10 years, with the majority of growth occurring in the metro regions of Calgary and Edmonton.



English as a Second Language

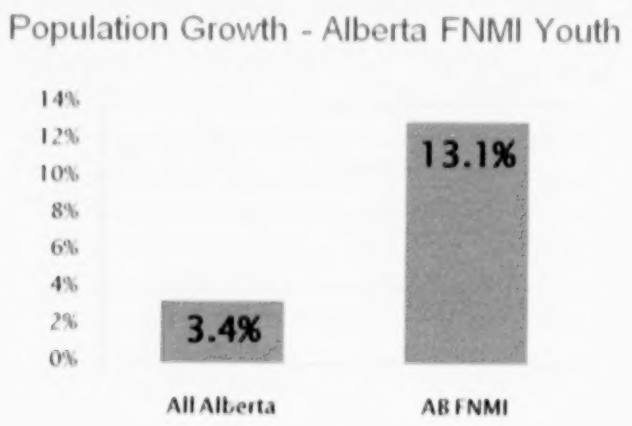
Alberta continues to offer exceptional opportunities for persons new to Canada. With continued international migration, Alberta's English as a Second Language (ESL) population is growing.

Across Alberta, the ESL population comprises ~10% of the total student population and in the larger metro boards, ESL populations comprise almost 25%.



Alberta's Aboriginal Student Population

Alberta's aboriginal population is growing at a significantly faster rate than the general population. This growth will see increasing numbers of aboriginal students in Alberta's schools.



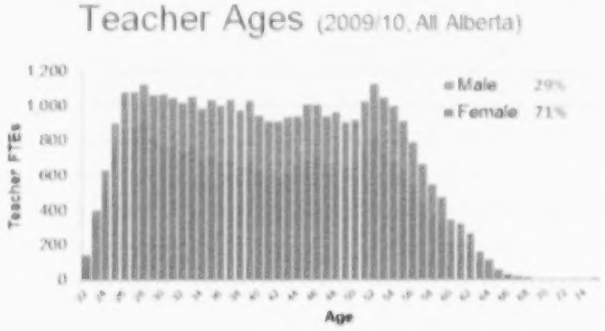
Demographic Profile

Alberta's school jurisdictions employ ~35,000 FTE teachers, with almost 42,000 certificated teachers employed in the system. The difference between the two numbers can be accounted for when one considers those teachers who work part time.

Age and Gender Profile of Teachers in Alberta

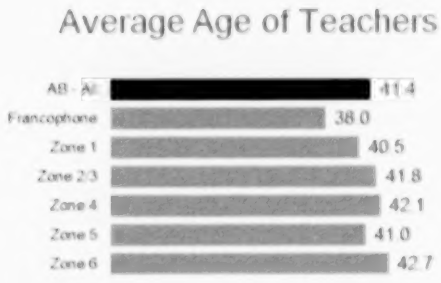
Alberta's teacher workforce has four distinctive age and gender characteristics:

- There is a significant percentage of teachers who are poised to retire within the next 5 years.
- There is a large pool of teachers who were recently hired, many of whom are female.
- Only 29% of teachers within the system are male.
- Only 20% of new graduates from teacher preparation programs are male.

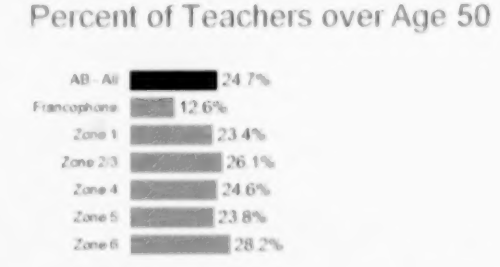


Age of Teachers in Alberta

While there have been a significant number of new hires over the past few years, the average age of teachers in Alberta is 41.4. This is reflective of the high number of teachers who are within 5 years of retirement.



This point becomes especially poignant when one considers the overall percentage of teachers over the age of 50.



* Average of 2005/06 to 2009/10

Teacher Salary Data

Teacher salaries in Alberta are determined through collective agreements between the employer school board and the Alberta Teachers' Association. The rate of pay is determined through a combination of experience and years of education. All teachers in Alberta must be in possession of a Bachelor of Education (B.Ed.). Many teachers choose to engage in additional studies, both at the undergraduate and graduate levels.

On average, a full-time teacher working in Alberta with:

- 4 years of university (B.Ed. degree) earns ~$ 58,150
- 5 years of university with a B.Ed. degree earns ~$ 61,450
- 6 years of university with a B. Ed. degree earns ~$ 65,250

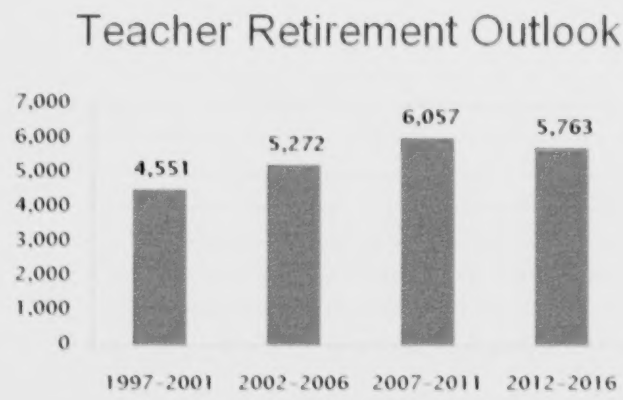
On average, a full-time teacher working in Alberta with 10+ years of experience and:

- 4 years of university (B.Ed. degree) earns ~$ 92,050
- 5 years of university with a B.Ed. degree earns ~$ 95,350
- 6 years of university with a B. Ed. degree earns ~$ 99,150

There are always exceptions to this generalization and so individual collective agreements must be consulted to determine specific pay rates for each jurisdiction in Alberta.

Teacher Retirement Outlook

Due to the ageing teacher workforce, retirement rates are projected to increase until at least 2014. After 2015, retirement rates are projected to decrease slowly as many of the baby-boomers will have already retired.



Teacher Attrition in Alberta

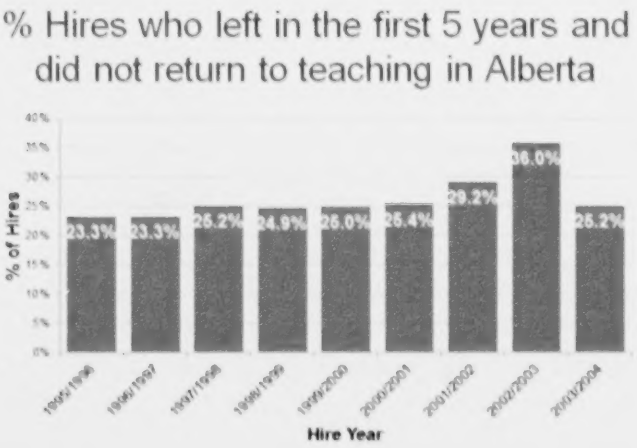
There is evidence that a relatively high number of teachers leave the Alberta education system in the first four years of their career.

The Alberta Early Career Attrition graph (to the right), demonstrates that on average, ~16% of early career attrition happens in the first year. An additional 6% of the base year new hires leave in year two, an additional 4% the next year, etc.

The data suggests a lower likelihood of teachers leaving the system once they are more established in their careers.

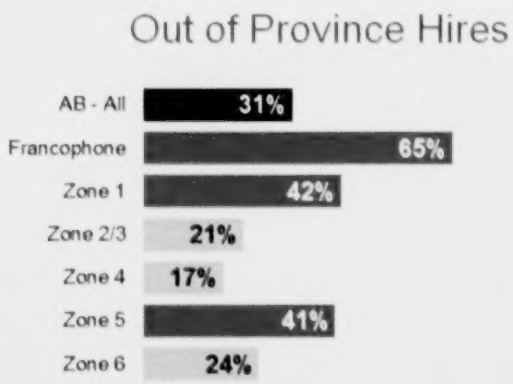
Note: "leaving the system" means the teacher is no longer actively employed with a school jurisdiction in Alberta and has not been for a full five years. The individual may have quit teaching, moved to another province or country to teach, or moved into a different career field.

When cohort data is examined, it would appear that there is a trend toward a five year early career attrition rate above 25%.



Out of Province Hires

While ~2,000 new teachers graduate from teacher preparation institutions in Alberta each year, only ~1,500 of them end up teaching in Alberta schools. There are many reasons why ~500 new graduates do not go into teaching; including personal suitability, lack of willingness to move to a new community, further education, a job in another province or country or a change in career direction.



*Average of 2005/06 to 2009/10 hire years

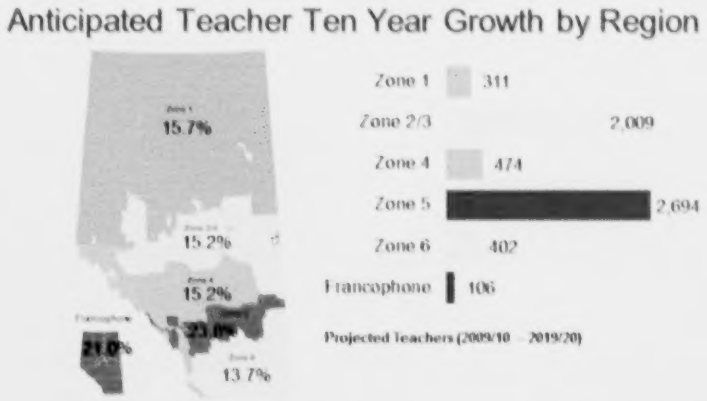
As such, the number of Alberta graduates hired in Alberta falls short of the 2,200 new hires that are required each year to meet on-going demand. As a result, many school jurisdictions recruit teachers from other provinces and countries. This trend to hire from out-of-province/out-of-country is expected to increase in the coming years as the demand for teachers exceeds the available supply.

Teacher Demand

Demand

The demand for teachers remains strong in Alberta and all indications are that there will be an increasing need for more teachers over the next 10 years. The challenge will be to promote career opportunities in northern and rural communities as competition for teaching positions in Alberta's metro regions is extremely high. As a result, graduates who wish to work as teachers need to be open to the possibility of moving to smaller, rural or northern communities and/or consider study in high demand subject specialties such as second languages, mathematics, sciences, and Career and Technology Studies.

In spite of high demand in rural and northern communities, the 10 year demand for teachers in metro areas is also very promising for new graduates. The chart below showcases the additional number of teachers (on top of the ones already in the system), required by each Zone over the next 10 years.



Total Hiring Patterns in Alberta

Current hiring assumptions are based on making a distinction between "Hires" and "New Hires". Hires include all teachers new to the system and those who are returning from a leave of absence. A "New Hire" is someone who has never worked in Alberta's school system as a teacher. Each year,

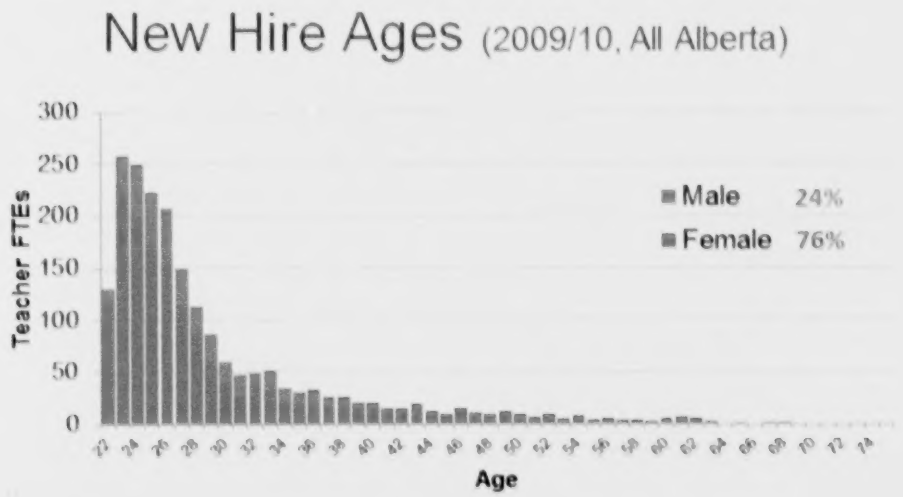
Total Hires

Zone	2009/10 Hires	2019/20 Hires	2009/10-2019/20 Increase
All All	4,257	5,584	31%
Francophone	110	132	20%
Zone 1	318	403	27%
Zone 2/3	1,875	2,186	17%
Zone 4	325	507	56%
Zone 5	1,307	2,083	59%
Zone 6	323	410	27%

Alberta relies on jurisdictions offering employment to both new hires and returning staff to meet the needs of Alberta students. The table above shows the increasing demand for hiring new and returning teachers in the province.

Age and Gender of New Hires in Alberta

Historically, more women than men have been attracted to careers in education, and this trend shows no sign of changing. Currently, ~80% of students in Alberta's teacher preparation programs are female and 76% of new hires in 2009/10 were women.



Targeted Strategies to Attract, Develop, Engage, Retain and Inform

In light of the data available on the education sector workforce in Alberta, Education, in partnership with education stakeholders, has developed a broad variety of projects and initiatives to address the attraction, development, engagement and retention concerns in its education sector workforce.

Provincial Competency Practice Guidelines for Education Assistants

The education sector workforce consists of more than just teachers. Education Assistants, for example, contribute significantly to learning of Alberta students. Without clear competency practice guidelines, Education Assistants lack a structure upon which to base their practice. Working collaboratively with stakeholders, Education will lead the development of *Competency Practice Guidelines for Education Assistants*.

Inspiring Educators

Currently there is no formal strategy to promote the teaching profession in Alberta. The *Inspiring Educators* project will lead to the development of a strong web presence and will position Alberta as the best place in Canada to have a teaching career. It will be a "one stop shop" for information on teaching and jobs in education in Alberta. The website will be developed in partnership with education stakeholders including the Alberta Teachers' Association, the College of Alberta School Superintendents, the Alberta School Boards Association, and the major Teacher Education Institutions.

Informing Albertans and the Education Sector Workforce

All across Alberta, educators are engaged in exciting and important work. In an effort to leverage the learning, Education will share the rich stories of success in schools. Education will also provide tools and data to strategic planners, superintendents, school board chairs and other interested parties to engage in meaningful dialogue that leads to data informed decision making.

CTS Bridge to Teacher Certification Program

There is an increasing need to increase the number of qualified CTS teachers in Alberta. This project strives to achieve this by providing a CTS bridging program for journeymen practitioners who wish to become teachers. This program will enable participants to be authorized to work in schools under a Letter of Authority while continuing studies towards completion of a Bachelor of Education.

CTS Teacher Preparation Program, Teacher training to attain an Apprenticeship Board Recognized Credential

To ensure that Alberta's education system has the right people with the right skills, Education is supporting a program that is designed to provide existing CTS teachers with an opportunity to attain the additional training necessary to teach advanced dual credit CTS courses.

Bridging Foreign-Prepared Teachers to Certification and Employment

In recent years, Alberta has experienced an increase in the number of foreign trained teachers seeking employment. In order to maintain a high quality teaching force, this project serves to provide foreign-prepared teachers with the knowledge and skills needed to be successful in Alberta schools.

Teacher Currency Requirement

This project was designed to inform those persons who hold a teaching certificate in Alberta of the new currency requirements. Alberta Education has instituted a requirement to ensure that applicants for Alberta certification meet currency qualifications prior to entering the classroom.

An applicant for interim certification must provide evidence of acceptable teaching experience, or equivalent that includes: responsibility for the planning, delivery and evaluation of an instructional program in which the curriculum reflects the educational system of Alberta

Applicants must have completed teaching experience within the past ten years which includes a minimum of either:

- 75 days of teaching experience in one academic year, or
- 100 days of teaching experience over two consecutive academic years

If no paid teaching experience has been completed, a minimum of ten weeks of supervised student teaching within the initial teacher preparation program must have been completed within the last ten years to be considered current.

Northern Student Teacher Bursary

In an effort to attract high quality graduates to northern communities, Education implemented a bursary program designed to increase student teacher participation in northern and rural placements. Designed to encourage students to teach in participating northern school divisions upon completion of their degree, the Northern Student Teacher Bursary is a return service bursary of $8,000 per year for two years, and is offered to students in the last two years of a Bachelor of Education degree. In exchange for the bursary, students commit to working in one of Alberta's northern communities for a period of up to three years.

Community Based Teacher Education Program

In response to the increases in First Nations, Métis and Inuit (FNMI) student population, this project is designed to increase the number of FNMI teachers in Alberta Schools. In a partnership with participating school boards, FNMI teacher candidates are provided with funding and learning supports to complete a B.Ed. through the University of Alberta at remote sites within their communities.

FNMI Teacher Capacity Project

The Aboriginal population in Alberta is diverse. Each community is unique in culture and composition. This project is designed to increase the capacity of teachers to meet the needs of FNMI learners within the local community by supporting the acquisition of teacher knowledge and skills necessary for FNMI student success.

Athabasca University - FNMI Course Development

To meet the increased need for teachers to understand the learning needs of FNMI students and their communities, Education in partnership with Athabasca University developed a professional learning opportunity accessible to all teachers in the province utilizing online course delivery. This course is designed to increase the capacity of teachers to meet the needs of FNMI learners through the development of a graduate level course entitled "Working with Indigenous Students."

Student Population and Teacher Workforce Forecasting

This project is multi-faceted and is designed to tell the education sector workforce story through the use of enhanced data elements. This project will strengthen the education sector's ability to use workforce data analysis to inform teacher attraction, engagement and staff retention and improve current data collection practices by establishing a streamlined process for workforce data collection, transmission, storage and report generation. This project will also improve Education's ability to respond to internal and external data requests that relate specifically to the education sector workforce.

Provincial Induction Program

In an effort to curb beginning teacher attrition rates in northern Alberta, Education has implemented pilot programs to implement teacher induction programs in 11 school authorities.

Provincial Policy on Professional Learning

This initiative will result in a provincial policy that supports a coordinated approach to professional learning in Alberta. The policy will encourage and support collaboration with stakeholders and professional development providers to maximize resources and opportunities for professional learning in Alberta. The policy is also designed to support the coordination of Ministry supports and

services, as they relate to professional learning, to enable high quality, strategically focused and sustainable implementation of curriculum, policy and initiatives.

Measuring the Impact of Professional Learning on Teacher Practice

Working with the Alberta Regional Professional Development Consortia and the Alberta Teachers' Association (ATA), Education is developing a tool kit to support teachers in measuring the impact of professional learning on their teaching practice.

Online Mentorship Course: Athabasca University

A traditional approach to teacher induction may have comprised of the new teacher being given a set of keys, a map of the school and a promise to see how things are going in the middle of the year. Strong research has shown that when beginning teachers are engaged in specially designed induction programs, they experience far more success, both personally and professionally. A key component of induction programming is mentorship. Education has contracted with Athabasca University to design a graduate level course on mentorship specifically designed to support the professional learning needs of those teachers willing to take on the Mentor role.

Effective On-line Learning for Teachers

Learning is no longer a "sit-and-get" activity. With advances in technology, learning can occur at any time, in any place and at any place. Working with researchers from the University of Alberta, Education is developing a framework to support the effective delivery of on-line learning for teachers; a mechanism that will enable teachers to access learning opportunities when it is convenient for them.

School Leadership Framework

To attract, develop and retain high quality leaders into principalship positions, Education will develop and implement a provincial school leadership framework. This framework will articulate the knowledge and skills required of school leaders to advance the practice of instructional leadership in Alberta's schools.

Early Career Attrition in Alberta's Education Sector Workforce

In an effort to understand and address the phenomenon of early career attrition in Alberta's education sector workforce, Education is working with researchers from the University of Alberta to develop a better understanding of the causes for early career attrition in teachers. The research will be instrumental in developing strategies to improve Alberta's teacher retention rate.

Changes to the Teacher Pension Act

In recognition of teacher shortages, particularly in rural and remote Alberta, Education set out to remove the barriers to employment for teachers who have retired from teaching but would like to work throughout the year as a substitute teacher. The change to the Pension Act will allow teachers who have retired from teaching the opportunity to teach as a day-to-day substitute teacher without penalty to his or her pension.

Rural Practicum Program

Education recognizes the need to encourage new teachers to consider careers in rural and remote areas across Alberta and is working with rural jurisdictions and post-secondary institutions to promote careers in teaching in these areas. This program provides funding to students who are willing to serve their teacher practicum in rural locations in Alberta. The program provides funding to help support the costs of travel and maintaining two homes for the duration of the practicum.

For More Information

If you would like more information on any aspect of this document you are encouraged to contact:

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